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REMARKS

After entry of this amendment, claims 17 through 23, 25, 26, 28 through 30, 33 through 37, 39, 40, 42, 44 through 47, and 50 through 51 are pending in the present application. Claims 17 and 33 have been amended. Claims 24, 27, 31, 32, 38, 41, 43, 48, 49, 52, 53 have been previously canceled.

Specification

The Specification stands objected to under 35 USC 132 (a) because it introduces a new matter in to the disclosure. The Applicant has amended paragraph [0017] to render the Examiner's objection moot. The Examiner found no support of "gauging station" and "coaxial" in the specification. The structural language was previously introduced by the Applicant in light of numerous court decisions, which held that: "amendments that (1) merely clarify or make definite that which an originally-filed application expressly or inherently disclosed, or (2) conform the specification to the originally disclosed drawings or claims, do not violate the rule on new matter", *Triax Co. v. Hartman Metal fabricators, Inc.*, 479 F.2d 951, 956-957, 178 USPQ 142, 146 (2d Cir.1973); *In re Wright*, 343 F.2d 761, 767, 145 USPQ 182, 188 (CCPA 1965). Figures 5 and 10, as originally filed by the Applicant, clearly illustrate a valve stem (112) coaxially aligned with an opening (118), as shown in Figure 5, and also show a pin (112a) for holding the valve stem (112) being coaxially inserted into the opening (118) in the wheel (120). The Applicant's amendments to the specification had been implemented to more clearly define the invention as originally claimed.

Alluding to the above, the Examiner has indicated that "gauging station" is different from "identification station" because the gauging station performs some sort of measuring operations whereas the identification station does not perform any measuring. As set forth in column 4, lines 27 through 34 of the United States Patent No. 6,886,231 (the '231 Patent),

subject to an interference declared between the present application and the '231 Patent, the gauging station 14 is located at the end of the input conveyor 10 and includes a closed circuit video camera 30 mounted above the conveyor line on a support frame 32, wherein "the video camera 30 is of the type used in machine vision systems and is directed downwardly so that the camera images the upper flange 12a of a rim located in the gauging station". As the description of the gauging station 14 proceeds in column 5, lines 6 through 11 of the '231 Patent, it further states that "when the rim 12 is stationary in the gauging station 14, the control system 22 activates the video camera 30 to image the rim..." and "...as each rim reaches the gauging station 14, the video camera 30 images the rim and the control system 22 *identifies* the rim as either a car rim 112 or a truck rim 212 based on programmed physical features as described above", as set forth in column 6, lines 34 through 38. There is no support in the specification of the '231 Patent to indicate that the gauging station 14 performs some sort of measuring operations.

Similarly, as set forth in paragraph [0018] of the present application, the identification or gauging station (24) can include a camera (26) for identifying the wheel (14) from a plurality of differently configured wheels. When the wheel (14) moves within the visual range of the camera (26), the camera (26) communicates an image of the wheel (14) to a controller (28). The image includes structural features of the wheel (14) including the position of the valve stem aperture. The controller (28) compares the image received from the camera (26) with a plurality of images stored in memory. The Applicant respectfully submits that the Examiner's objections to the specifications are now moot.

Claims

Claim Rejections – 35 U.S.C. §112

Claims 17 through 23, 25, 26, 28 through 30, 33 through 37, 39, 40, 42, 44 through 47, 50 and 51 stand rejected under 35 U.S.C. §112, first paragraph, as failing to comply with

the written description requirement. Please refer to the Applicant's arguments as set forth above as related to the support of "gauging station" and "coaxial" in the specification. The Examiner has alluded that the Applicant's invention has no mention of any programming being performed. As set forth in paragraph [0018] of the present application, when a wheel (14) moves within the visual range of the camera (26), the camera (26) communicates an image of the wheel (14) to a controller (28). The controller (28) compares the image received from the camera (26) with a plurality of images *stored in memory*, which correspond to all of the differently configured wheels that can pass through the identification station (24). Each of the *images stored in memory is associated with structural characteristics and physical dimensions* of a corresponding wheel (14). As further stated in paragraph [0024] the assembly (90a) moves in the direction (122) at a *predetermined* angular velocity. All of the above would be recognized by one of ordinary skill in the art as a programmable robotic manipulator and where programming is hereunto disclosed, thereby rendering the Examiner's rejections of claims 19 and 28 moot.

With respect to claims 19, paragraph [0021] discloses a plurality of valve stem delivery stations and that different valve stem configurations are disposed at different valve stem delivery stations. Claim 21 is supported by the specification and Figures 7 through 10, which clearly indicate the steps of directing an optical sensor at the rim, rotating the optical sensor about the rim; and stopping rotation of the optical sensor about the rim when the optical sensor is directed at the aperture. Again, the structural language of claim 21 was introduced by the Applicant in light of numerous court decisions, as set forth above, to merely clarify or make definite that which an originally-filed application expressly or inherently disclosed, or (2) conform the specification to the originally disclosed drawings or claims, without violation of the rule on new matter. With respect to claims 25 and 39, Figure

6 shows valve stems (unnumbered) valve stems being conveyed, or supplied, in serial fashion.

Claim Rejections – 35 U.S.C. §102

Claims 17, 18, 20, 22, 26, 28-30, 33, 34, 36, 40, 42, and 44 through 46 stand rejected under 35 U.S.C. §102 (b) as being anticipated by the United States Patent No. 5,940,960 (the '**960 Patent**'). In the Office Action at paragraph 8, the Examiner asserts that the '**960 Patent**' discloses a central axis of the aperture and a longitudinal axis of the valve stem are coaxially aligned with respect to one another prior to insertion of the valve stem through the aperture. Further, the Examiner states that the '**960 Patent**' discloses moving the valve stem relative to the rim along a programmable path of travel during the coaxially aligning step and along the aligned axes to insert the valve stem through the aperture. Yet further, the Examiner states that the '**960 Patent**' has a path of travel defined with a programmable robotic manipulator having an arm capable of compound, multi-axial movement and having a plurality of program paths corresponding to a plurality of different sized wheel rim and valve stem combinations to be assembled.

However, it is respectfully submitted that the '**960 Patent**' does not disclose these features which are set forth in Applicants' claims, including independent claims 17, 33, 44, and 50. More specifically, at column 7, lines 10-23, the '**960 Patent**' states that "During insertion of a valve stem into a valve stem opening in a wheel, *the inclined angle of the valve stem holding pin 126 may be incorrect depending upon the particular size of the wheel.* As long as the valve stem is at least partially inserted into the valve stem opening, the bar 128 will pivot during further insertion of the valve stem to adjust the valve stem holding pin 126 to the proper insertion angle. *Further, the valve stem may not be perfectly aligned with the center of the valve stem opening depending upon the consistency of the wheels.* As long as

the valve stem is partially inserted into the valve stem opening, interference between the valve stem and the wheel will cause the cradle 130 and first support member 136 to rotate to accommodate the position of the valve stem opening relative to the valve stem.

Accordingly, it is quite clear that the '960 Patent does not coaxially align a central axis of the aperture of a wheel rim and a longitudinal axis of the valve stem with respect to one another prior to insertion of the valve stem through the aperture as set forth in claim 17, or coaxially align the valve stem and the aperture as set forth in claim 44, or provide means for coaxially aligning the central axis of the aperture and a longitudinal axis of the valve stem with respect to one another prior to insertion of the valve stem through the aperture as set forth in claim 44, or means for coaxially aligning the valve stem and the aperture... as set forth in claim 33. In contrast, the '960 Patent clearly indicates that its apparatus may not correctly align the valve stem with the valve stem opening in the wheel rim prior to insertion, but rather relies on interference between the valve stem and the wheel to cause its apparatus, namely, the cradle 130 and support member 136, to rotate and, therefore, adjust themselves to accommodate the position of the valve stem opening relative to the valve stem. This is contrary to the Applicants' claims and the accuracy and repeatability of valve stem insertion present in the Applicants' invention.

Alluding to the above, the '960 Patent does not disclose, teach or suggest moving the valve stem relative to the rim along a programmable path of travel defined with a programmable robotic manipulator having an arm capable of compound, multi-axial movement and having a plurality of program paths corresponding to a plurality of different size wheel rim and valve stem combinations to be assembled as is clearly set forth in Applicants' claims, including Applicants' independent claims 17, 33, 44 and 50. It is clear from a reading of the '960 Patent that the '960 Patent apparatus merely advances or retracts its valve stem along a single path via an air cylinder 144 which is actuated to drive support

plate 140, holding pin 126 and valve stem insertion tool 54, upwardly or to retract same, as set forth at column 10, lines 53-58 of the '*960 Patent*. As further set forth in column 8, lines 13-21 of the '*960 Patent* while the '*960 Patent* utilizes a programmable logic controller, that controller merely controls the timing and sequence of the various steps in the '*960 Patent* assembly process **but does not** control a programmable robotic manipulator having an arm capable of compound, multi-axial movement which has a plurality of program paths corresponding to a plurality of different sized wheel rim and valve stem combinations to be assembled. To the contrary, the '*960 Patent* merely describes movement of a valve stem toward or away from a wheel rim along a single path of travel with an air cylinder and, as set forth above, the alignment of the valve stem with the wheel rim opening may well be incorrect and misaligned thereby providing the distinct possibility of damage to either the wheel rim or valve stem during insertion.

The Applicant believes that as currently amended and supported by the Applicant's arguments, the independent claims 17, 33 and 44 are patentably distinct over the '*960 Patent* thereby rendering the Examiner's rejection of claims 17, 33, 44, and their dependent claims 18, 20, 22, 26, 28-30, 34, 36, 40, 42, and 44 through 46 under 35 U.S.C. §102 (b) moot. As alluded by the Applicant above, the '*960 Patent does not* position any valve stem to be coaxially aligned with an aperture in the wheel rim nor is the valve stem articulated and positioned by the apparatus in the '*960 Patent* for such alignment prior to insertion. Moreover, the '*960 Patent does not disclose* tightening a nut over a threaded portion of a valve stem, especially with a nut runner mounted on a robotic manipulator as set forth in claims 23 and 37. Further, the '*960 Patent does not disclose* the use of a machine vision system to identify at least one physical feature of the rim as set forth in the Applicants' claims 18, 20, 34, 35, and 36. The remaining dependent claims are likewise not anticipated or disclosed by the '*960 Patent* because of their inclusion of the steps or elements set forth in

the independent claims. Accordingly, because of these differences between the '*960 Patent*' and the Applicants' claims, the Examiner's rejection of these claims under 35 U.S.C. § 102(b) based on the '*960 Patent*' is respectfully traversed. It is respectfully submitted that such rejection should be withdrawn.

Claim Rejections – 35 U.S.C. §103

Claims 17 through 22, 23, 25, 26, 28 through 30, 33 through 37, 39, 40, 42, 44 through 47, 50, and 51 stand rejected under 35 U.S.C. §103 (a) as being unpatentable over the '*960 Patent*' in view of the United States Patent No. 6,481,083 (the '*083 Patent*').

The Examiner asserts that the '*960 Patent*' discloses all of the claimed subject matter except for a plurality of valve stem delivery stations. However, for the reasons expressed above, the '*960 Patent does not disclose, teach or suggest* the Applicants' method or apparatus for coaxially aligning a central axis of the aperture in the wheel rim and a longitudinal axis of the valve stem with respect to one another prior to insertion of the valve stem through the aperture, or moving the valve stem relative to the rim along a programmable path of travel during the coaxially aligning step and along the aligned axes to insert the valve stem through the aperture where the path of travel is defined with a programmable robotic manipulator having an arm capable of compound, multi-axial movement and having a plurality of programmed paths corresponding to a plurality of different size wheel rim and valve stem combinations to be assembled. It is clear from the above discussion, that the '*960 Patent*' incorrectly aligns the valve stem and wheel opening and relies on interference between the valve stem and wheel to cause its apparatus to move to accommodate the position of the valve stem opening relative to the valve stem.

This distinctly different operation and apparatus in the '*960 Patent*' does not suggest the coaxial alignment defined in the Applicants' claims, nor the use of a robotic manipulator

capable of compound multi-axial movement and having a plurality of program paths corresponding to different size wheel rim and valve stem combinations, or the movement of a valve stem to a gauging station from one of a plurality of valve stem delivery stations as set forth in Applicants' claims 19, 25, 26, and 29. A mere increase in the number of valve stem delivery stations cannot supply the lack of disclosure, teaching or suggestion in the '*960 Patent* to yield the overall combination method or apparatus defined in the Applicants' claims 19, 25, 26, and 29. Accordingly, it is respectfully submitted that claims 19, 25, 26, and 29 are not obvious over the '*960 Patent*.

The Examiner further alluded in paragraph 11 of the present Office Action that the '*083 Patent* teaches "rotating the table when the optical sensor is directed at the aperture rather than rotating the optical sensor about the rim". The Examiner further takes an official notice that it would be obvious to a person skilled in the art, at the time of the invention, to have rotated the optical sensor. As set forth in column 7, lines 1 through 10 and illustrated in Figure 4 of the '*083 Patent*, a gauging station 114 includes a *motor-driven rotating table* 68 located at the end of the input conveyor 10 and an optical sensor 70 disposed above the table 68. The sensor 70 includes a transmitter 70a aims a beam onto a rim 12 located on and rotated by the table 68, as illustrated in Figure 4. The '*083 Patent falls to teach or suggest, expressly or impliedly*, that the valve stem is moved by the robotic manipulator about the rim.

Indeed, as explained in the '*960 Patent* at column 6, lines 26-37, a valve stem insertion tool 54 supported for sliding movement on guide rails 118 for movement toward and away from a wheel rim by means of a drive shaft 124. Moreover, the valve stem insertion tool 54 of the '*960 Patent* is moved up and down by means of an air cylinder 144. Such movement is required to place the valve stem adjacent the opening in the wheel rim as shown and described by the '*960 Patent* and especially in Figure 4. The '*960 Patent does not disclose, teach or suggest* the provision of a robotic manipulator having an arm capable

of compound, multi-axial movement and having a plurality of programmed paths since it discloses movement of its valve stem insertion tool horizontally and vertically in two dimensions not along multi-axial movement or a plurality of programmable paths. There is no suggestion in the *'960 Patent* for altering its apparatus to use such a robotic manipulator. In fact, the *'960 Patent* method and apparatus of partially inserting a valve stem in an aperture of a rim and relying on interference between the two to cause movement of the stem support apparatus would hypothetically not function with a robotic manipulator in any known fashion. Similarly, the mere existence of a robotic manipulator used to move relative various objects commonly used in modern manufacturing operations does not suggest the method and apparatus of the Applicants' claims, nor does it suggest use in combination with the specific valve stemming apparatus as set forth in the *'960 Patent* that operates entirely different without coaxial alignment. One skilled in the art simply would have no reason or motivation to combine these distinctly different structures/methods, especially to produce the Applicants' invention as claimed.

There is no basis or motivation to combine a commonly available robotic manipulator with the apparatus disclosed in the *'960 Patent*, especially to arrive at the Applicants' claimed method or apparatus. The lack of means for coaxially aligning or moving the valve stem and rotating the valve stem relative the rim as set forth in Applicants' claims are simply not found in either the *'960 Patent* or the *'083 Patent*.

Accordingly, it is respectfully submitted that there is no basis for combining the *'960 Patent* with the *'083 Patent*. Withdrawal of the rejections under 35 U.S.C. § 103(a), therefore, is respectfully requested. For the reasons set forth above, the Applicant respectfully submits that independent claims 17, 33, 44 and 50 with respective dependent claims are in condition for allowance, which allowance is respectfully solicited.

The Applicant believes that no additional fees are required, however, the Commissioner is authorized to charge our Deposit Account No. 08-2789 for any fees or credit the account for any overpayment.

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Respectfully submitted,

HOWARD & HOWARD ATTORNEYS P.C.

June 15, 2007

Date

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CERTIFICATE OF FACSIMILE TRANSMISSION

I hereby certify that the attached Amendment is being facsimile transmitted to the Commissioner for Patents and Trademarks, Alexandria, Virginia, to the attention of Examiner Marc Jimenez from Group: 3753 to facsimile number (571) 273-8300 on June 15, 2007.

Tracy L. Smith
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